

Environmental Regulation Update

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ESPWG

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Developments in CO₂ Markets

- ***RGGI supply >> Demand***
 - Last two auctions have not sold out
 - 2012 Cap reset
- ***Western Climate Initiative***
 - Reduced participation – California, British Columbia and Quebec
 - Delayed Start up, 2013
- ***USEPA Draft rules***
- ***Federal Legislation delayed***

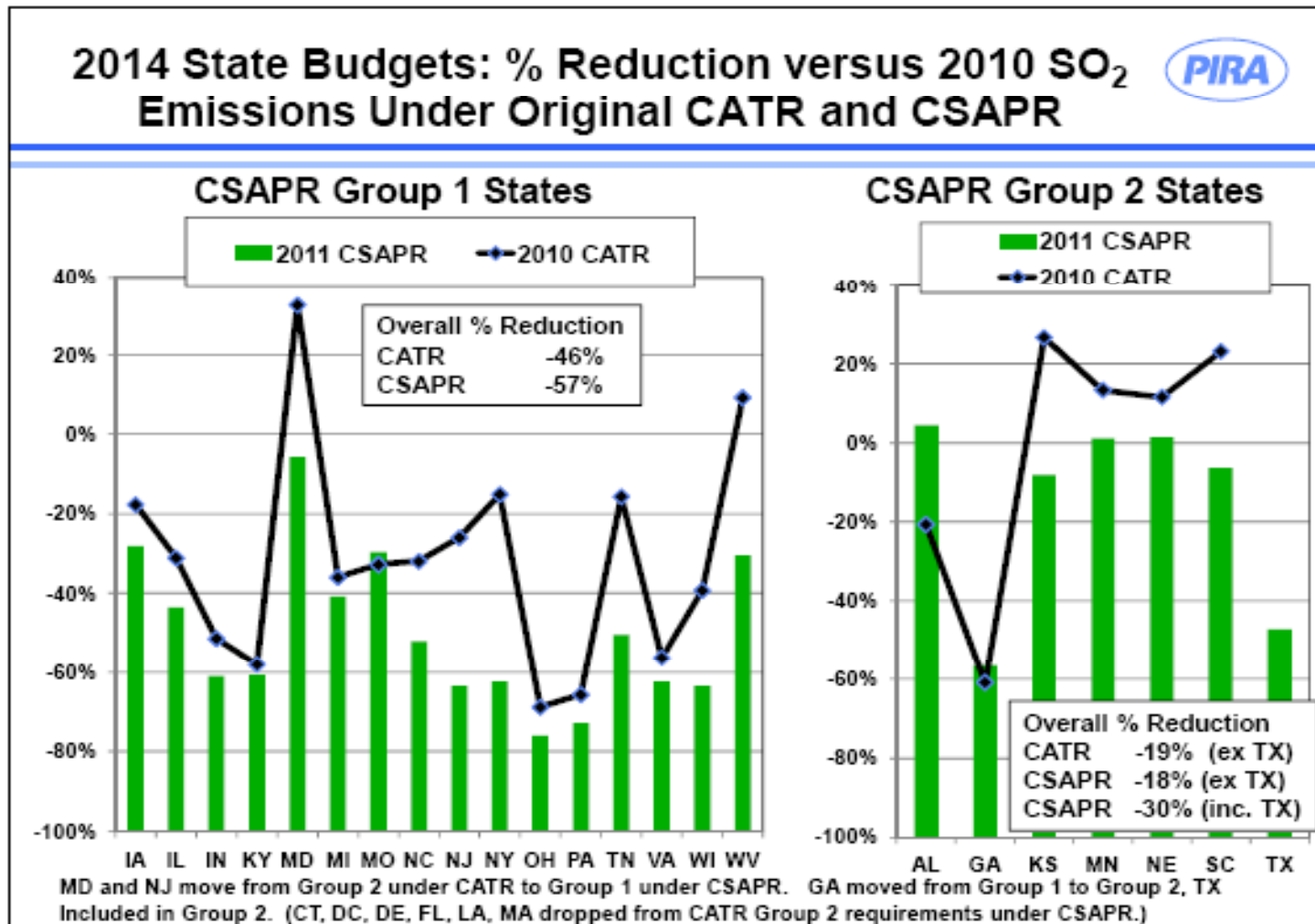
Regulatory Developments

- ◆ **USEPA Proposed Clean Air Transport Rule (CATR) is finalized, now Cross State Air Pollution Rule (CSAPR)**
 - *Provides for limited interstate trading of emission allowances*
 - **Up to 18% of State Budget is allowable, however other local considerations will also prevail**
 - *Aggressive and early reductions*
 - *Reductions are significantly greater than reductions proposed under CAIR & CATR*

CSAPR Requires Emission Reductions that are Larger and Sooner than CATR

Comparison of Emission Allocations					
	2010 Actual Emissions	2012 CATR Proposal	2012 CSAPR Rule	2014 CATR Proposal	2014 CSAPR Rule
SO2	48,056	64,541	23,929	40,780	16,339
NOx Annual	24,750	22,633	15,589		
NOx Season	12,455	10,745	7,454		

New York State's Relative Allocation



SO₂ Reductions

Cross-State Air Pollution Rule SO ₂ Allocations							
	Unit Type	Summer Capacity [MW]	2010 SO ₂ Emissions [Tons]	2012 CSAPR SO ₂ Allocation [Tons]	2014 CSAPR SO ₂ Allocation [Tons]	2012 Allocation - Historic [Tons]	2014 Allocation - Historic [Tons]
Downstate	CC	2,585	50	176	176	126	126
	GT	2,919	430	277	220	(153)	(210)
	ST-NG/Oil	6,818	2,683	9,206	6,447	6,523	3,764
	Total	12,322	3,163	9,659	6,843	6,496	3,680
Hudson Valley	GT	65	1	0	0	(1)	(1)
	ST-Coal	375	8,332	1,898	1,247	(6,434)	(7,085)
	ST-NG/Oil	2,448	251	951	625	700	374
	Total	2,888	8,584	2,849	1,872	(5,735)	(6,712)
Upstate	CC	4,059	38	68	68	30	30
	GT	538	1	3	3	2	2
	ST-Coal	2,005	35,909	11,207	7,459	(24,702)	(28,450)
	ST-NG/Oil	1,648	362	143	94	(219)	(268)
	Total	8,250	36,310	11,421	7,624	(24,889)	(28,686)
Totals							
NYCA	CC	6,645	88	244	244	156	156
	GT	3,522	432	280	223	(152)	(209)
	ST-Coal	2,380	44,241	13,105	8,706	(31,136)	(35,535)
	ST-NG/Oil	10,913	3,296	10,300	7,166	7,004	3,870
	Total	8,250	48,056	23,929	16,339	(24,127)	(31,717)

Table derived from <http://www.epa.gov/airtransport/pdfs/UnitLevelAllocData.xls>

NO_x Reductions

Cross-State Air Pollution Rule Annual NO _x Allocations					
	Unit Type	Sum of Summer Capacity [MW]	2010 Annual NO _x Emissions [Tons]	2012 CSAPR NO _x Allocation [Tons]	2012 Allocation - Historic (Tons)
Downstate	CC	2,585	990	1,109	119
	GT	2,919	1,167	461	(706)
	ST-NG/Oil	6,818	6,392	5,743	(649)
	Total	12,322	8,548	7,313	(1,235)
Hudson Valley	GT	65	10	2	(8)
	ST-Coal	375	2,156	876	(1,280)
	ST-NG/Oil	2,448	494	438	(56)
	Total	2,888	2,660	1,316	(1,344)
Upstate	CC	4,059	1,072	1,233	161
	GT	538	95	410	315
	ST-Coal	2,005	12,286	5,252	(7,034)
	ST-NG/Oil	1,648	89	65	(24)
	Total	8,250	13,542	6,960	(6,582)
Totals					
NYCA	CC	6,645	2,062	2,342	280
	GT	3,522	1,272	873	(399)
	ST-Coal	2,380	14,442	6,128	(8,314)
	ST-NG/Oil	10,913	6,974	6,246	(728)
	Total	8,250	24,750	15,589	(9,161)

Table derived from <http://www.epa.gov/airtransport/pdfs/UnitLevelAllocData.xls>

Ozone Season NO_x Reductions

Cross-State Air Pollution Rule Ozone Season NO _x Allocations					
	Unit Type	Sum of Summer Capacity [MW]	2010 Ozone Season Emissions [Tons]	2012 CSAPR NO _x Allocation [Tons]	2012 Allocation - Historic (Tons)
Downstate	CC	2,585	399	431	32
	GT	2,919	795	263	(532)
	ST-NG/Oil	6,818	3,948	3,107	(841)
	Total	12,322	5,143	3,801	(1,342)
Hudson Valley	GT	65	8	1	(7)
	ST-Coal	375	975	364	(611)
	ST-NG/Oil	2,448	453	246	(207)
	Total	2,888	1,436	611	(825)
Upstate	CC	4,059	566	644	78
	GT	538	51	188	137
	ST-Coal	2,005	5,214	2,185	(3,029)
	ST-NG/Oil	1,648	45	25	(20)
	Total	8,250	5,876	3,042	(2,834)
Totals					
NYCA	CC	6,645	965	1,075	110
	GT	3,522	854	452	(402)
	ST-Coal	2,380	6,189	2,549	(3,640)
	ST-NG/Oil	10,913	4,447	3,378	(1,069)
	Total	8,250	12,455	7,454	(5,001)

Table derived from <http://www.epa.gov/airtransport/pdfs/UnitLevelAllocData.xls>

USEPA's Estimates for Allowance Prices

	Emission Allowance Prices (2007\$/ Ton)	
	2012	2014
Annual SO ₂ Group 1 Trading Program	\$1,000	\$1,100
Annual SO ₂ Group 2 Trading Program	\$600	\$700
Annual NO _x Trading Program	\$500	\$600
Ozone Season NO _x Trading Program	\$1,300	\$1,500

USEPA MACT Proposal

- ◆ **March 2011 Proposal**
- ◆ **Coal Units Limited for PM, HCl, & Hg**
 - *Compliance actions may be within reach for most coal units*
- ◆ **Heavy Oil Limited for Total Metals, HCl, and HF**
 - *Fuel blending and switching may be feasible compliance plans*
- ◆ **Compliance 11/2014?**

316 b and BTA

- ◆ **USEPA Proposed Rule April 2011**
 - *Comment Period August 18, 2011*
 - *2-125 MGD: 0.5 ft/sec compliance*
 - *>125 MGD: entrainment studies*
 - *Up to eight years allowed for compliance retrofits*

- ◆ **NYSDEC BTA**
 - *Generally more stringent than 316 b*
 - *Under continued review by DEC*

New York Programs

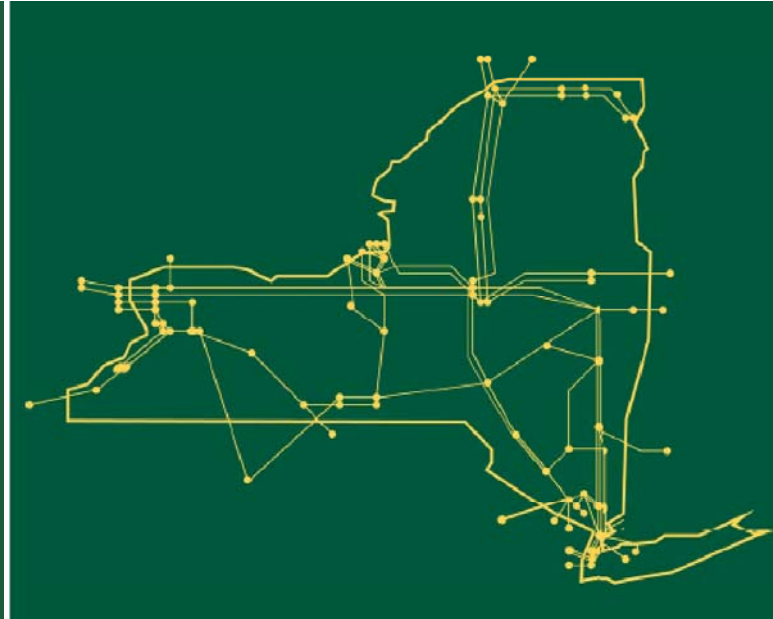
- ◆ **NOx RACT**

- *Compliance Plans due Jan. 2012*

- ◆ **BART**

- *Compliance Plans under review by NYSDEC and Federal National Parks*

The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.



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